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1. Apparatus for reducing distortion in a high-resolution switching amplifier
  - 2 of the type wherein multiple references are switched to a load in accordance with an input
  - signal, comprising:
  - 4 a source of a primary reference signal; and
  - circuitry for calibrating a secondary reference signal as a function of the primary
  - 6 reference signal when the input signal is zero.

2. The apparatus of claim 1, wherein the secondary reference signal
- 2 approaches the value of the integral of the primary reference at a pulse-width of one.

3. The apparatus of claim 2, wherein the circuitry includes:
- 2 a comparator connected across the load; and
- an integrator connected to receive the output of the comparator.
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4. The apparatus of claim 3, wherein the circuitry further includes:
- 2 a pulse-width modulator connected to the output of the integrator.

5. A method of reducing distortion in a high-resolution switching amplifier
- 2 of the type wherein primary and secondary references are switched to a load in
- accordance with an input signal, the method comprising the steps of:

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comparing the integral of the primary reference to the integral of the voltage  
across the load when the input is zero; and

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pulse-width modulating the result of the comparison for use as the secondary  
reference.